

Having described the invention, the following is claimed:

1. A vapor decontamination system for decontaminating a defined region, said system comprising:
  - a chamber defining a region;
  - a generator for generating vaporized hydrogen peroxide from a solution of hydrogen peroxide and water;
  - a closed loop circulating system for supplying said vaporized hydrogen peroxide to said region;
  - a destroyer within said closed loop circulating system for breaking down said vaporized hydrogen peroxide;
  - a bypass conduit bypassing said destroyer; and
  - a controller operable to cause vaporized hydrogen peroxide from said generator to bypass said destroyer during a predetermined phase of operation.
2. A vapor decontamination system as defined in claim 1, wherein said controller is programmed to include a drying phase of operation, a conditioning phase of operation, a decontamination phase of operation and an aeration phase of operation.
3. A vapor decontamination system as defined in claim 2, wherein said controller causes said vaporized hydrogen peroxide (VHP) to bypass said destroyer during said conditioning phase.
4. A vapor decontamination system as defined in claim 1, further comprising an air dryer downstream from said destroyer.
5. In a decontamination system for decontaminating a region, said system having a generator for generating vaporized hydrogen peroxide, a closed loop system for supplying the vaporized hydrogen peroxide to said region and a destroyer for breaking down the vaporized hydrogen peroxide, a bypass conduit for causing fluid to flow through said closed loop system to bypass said destroyer, and a controller for controlling fluid flow through said bypass conduit.
6. A decontamination system as defined in claim 5, wherein said closed loop system includes a first fluid flow path wherein fluid within said system flows through said destroyer and a second fluid flow path wherein fluid within said system bypasses said destroyer, said bypass conduit defining said second fluid flow path.

7. A decontamination system as defined in claim 6, further comprising valve means for controlling flow through either said first fluid flow path or said second fluid flow path.

8. A decontamination system as defined in claim 7, wherein said controller causes fluid to flow through said second fluid flow path during a conditioning phase of said system.

9. A decontamination system as defined in claim 8, wherein said system includes an air dryer where said air dryer is part of said first fluid flow path.

10. A closed loop, flow-through vapor phase decontamination system, comprising:

a sealable chamber having an inlet port and an outlet port;

a closed loop conduit system having a first end fluidly connected to said inlet port and a second end fluidly connected to said outlet port;

a blower connected to said conduit system for re-circulating a carrier gas flow into, through and out of the chamber;

a source for delivering vaporized sterilant into said carrier gas flow upstream of said inlet port;

a destroyer downstream of said outlet port for destroying the vaporized sterilant;

a bypass conduit for directing flow through said closed loop conduit system around said destroyer; and

a controller for controlling flow through said bypass conduit.

11. A system as defined in claim 10, wherein said sterilant is vaporized hydrogen peroxide (VHP).

12. A system as defined in claim 11, wherein said controller directs flow through said second fluid flow path during a conditioning phase of operation.

13. A system as defined in claim 10, further comprising an air dryer disposed downstream from said destroyer.

14. A system as defined in claim 13, wherein said blower is disposed downstream from said chamber, between said destroyer and said chamber.